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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,966	09/24/2003	John A. Weldy	84554DAN	4870
7590		01/22/2008		
Milton S. Sales Patent Legal Staff Eastman Kodak Company 343 State Street Rochester, NY 14650-2201			EXAMINER CHENG, PETER L	
			ART UNIT 2625	PAPER NUMBER
			MAIL DATE 01/22/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/669,966

Applicant(s)

WELDY ET AL.

Examiner

Peter L. Cheng

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 May 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/24/2003, 2/11/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Per the description on **page 3, lines 29 – 30**, **Figure 1** should be designated by a legend such as **--Prior Art--** because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:
- **Page 11, lines 10, 12:** the equation in **line 10** refers to a parameter $I_{crq}(x,y)$; however, **line 12** refers to a parameter $I_{cr}(x,y)$; since these appear to refer to the same parameter, suggest naming these similarly;

- **Page 11, line 17:** from the preceding description, it is assumed that applicant intended to cite **K_Q** instead of **K_C**;

Appropriate correction is required.

Claim Objections

3. Claim 6 is objected to because of the following informalities:
 - **Lines 1 - 2:** since claim 1 cites both a step of applying a scanning illumination toward an open scanning aperture, and a step of applying the scanning illumination to the light scattering media, it is not clear to which of these steps the limitation cited in claim 6, **said step of applying the scanning illumination**, is referred to;

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 4, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by **BRYANT and COMPTON [EUROPEAN Patent Application EP1014690 A2]**.

As for claim 1, BRYANT and COMPTON teach a method for calibrating a scanning system

["a method of performing gain calibration in a film scanner to correct for pixel-by-pixel variations"; **page 3, paragraph 11, lines 1 - 4]**,

the method comprising the steps of

applying a scanning illumination toward an open scanning aperture of a scanning system to determine a first correction factor for the scanning system

[Step "a. obtaining a pixel-by-pixel open gate response for the scanning system in which scanning illumination is active but without film present in the scanning system" and

Step "b. establishing a pixel-by-pixel open gate gain profile in response to said open gate response"; **page 3, paragraph 11]**;

inserting a light scattering media at the open aperture

[Step “c. obtaining a pixel-by-pixel Dmin response for the scanning system in which scanning illumination is active and film is present in the scanning system”; **page 3, paragraph 11**];

**applying the scanning illumination to the light scattering media to
determine a subsequent low frequency correction factor to compensate for
at least non-uniformities created from a combination of the light scattering
media and elements of the scanning system**

[Step “c. obtaining a pixel-by-pixel Dmin response for the scanning system in which scanning illumination is active and film is present in the scanning system”
and

Step “d. establishing a pixel-by-pixel Dmin gain profile in response to said Dmin response”; **page 3, paragraph 11**];

**and combining the first correction factor and the second correction factor
to provide for fully corrected image information**

[Step “e. establishing a pixel-by-pixel composite gain profile from selective
combination of said open gate and Dmin gain profiles” and

Step "f. on a pixel-by-pixel basis utilizing the composite gain profile for actual scanning of film images"; **page 3, paragraph 11**].

The examiner concurs with the "Written Opinion of the International Searching Authority" for the corresponding filed PCT/US2004/030501 that a pixel-by-pixel correction which would inherently correct a "low frequency" non-uniformity. Therefore, BRYANT and COMPTON anticipate the above cited limitations.

Regarding claim 2, BRYANT and COMPTON further teach a method according to claim 1,

wherein said light scattering media is a diffusing material having known properties

[As noted for claim 1, BRYANT and COMPTON teach that the film itself may be used as the diffusing material and cite, "The gain values may also be determined by collecting scan data with minimum density film present (the Dmin condition). Dmin areas of the film are typically present in the leader and trailer of Advanced Photographic System (APS) film. FIG. 3B shows a set of gains 30' derived (with the same illumination as in FIG. 3A) from Dmin scan data (normalized, if necessary, to the same overall signal level represented by FIG. 3A)"; **page 6, paragraph 18, lines 45 - 53**].

Regarding claim 4, BRYANT and COMPTON further teach a method according to claim 1, wherein

said step of inserting the light scattering media at the open aperture comprises moving the light scattering media from a first position which is displaced from the open aperture to a second position which is in front of the open aperture

[This limitation is inherently taught by BRYANT and COMPTON. The insertion of the film into the scanning system requires that it be moved from a first position which is displaced from the open aperture to a second position which is in front of the open aperture].

As for claim 9, BRYANT and COMPTON teach a method of calibrating a scan of an image bearing film, the method comprising the steps of:

scanning a light scattering media;

determining a low frequency correction based on the scanning of the light scattering media;

and applying the correction to subsequent image scans.

These limitations were shown to be taught by BRYANT and COMPTON for claim 1.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over **BRYANT and COMPTON [EUROPEAN Patent Application EP1014690 A2]** in view of **MOORE [US Patent 5,049,984]**.

Regarding claim 3, BRYANT and COMPTON further teach a method according to claim 1, wherein

said light scattering media is a diffusing material having multiple densities and colors

[As noted for claim 1, BRYANT and COMPTON teach that the film itself may be used as the diffusing material. They do not specifically teach that the film has multiple densities and colors. However, a property of negative film is that of having multiple densities and colors.

MOORE explains, "The base density includes, in the case of negative film, the density of unexposed areas of the film, including the densities of the support and suspending gelatin, the fog density produced on development without exposure, and the unequal densities in red, green, and blue due to the inherent color mask used in a negative film to cancel unwanted dye absorption"; **col. 1, lines 46 – 52].**

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over **BRYANT and COMPTON [EUROPEAN Patent Application EP1014690 A2].**

Regarding claim 5, BRYANT and COMPTON further teach a method according to claim 1, wherein

said light scattering media is photographic film

[Step "c. obtaining a pixel-by-pixel Dmin response for the scanning system in which scanning illumination is active and film is present in the scanning system"; **page 3, paragraph 11]**

However, BRYANT and COMPTON do not specifically teach the following underlined limitations; that is, scanning an *interframe area*:

and said step of applying the scanning illumination to the light scattering media comprises scanning at least one position of an interframe area of the photographic film which does not include image information.

As noted for claim 1, BRYANT and COMPTON teach scanning the film "leader and trailer" which do not include image information and cite, "The gain values may also be determined by collecting scan data with minimum density film present (the Dmin condition). Dmin areas of the film are typically present in the leader and trailer of Advanced Photographic System (APS) film. FIG. 3B shows a set of gains 30' derived (with the same illumination as in FIG. 3A) from Dmin scan data (normalized, if necessary, to the same overall signal level represented by FIG. 3A)"; **page 6, paragraph 18, lines 45 – 53.**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to scan other portions of the film besides the leader and trailer that do not contain image information such as areas between frames because these areas can provide similar Dmin scanning profiles.

10. Claims 6 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over **BRYANT and COMPTON [EUROPEAN Patent Application EP1014690 A2]** in view of

EDGAR [US Patent 5,266,805].

Regarding claim 6, BRYANT and COMPTON *do not specifically teach* a method according to claim 1, wherein

said step of applying the scanning illumination comprises scanning the media with red, green, blue and an additional wavelength of light.

EDGAR teaches a method of scanning an image frame with an additional wavelength of light (i.e., infrared) in order to detect film defects; **col. 3, line 67 – col. 4, line 3**. Such defects include dust [**col. 4, lines 30 - 31**], small surface scratches [**col. 4, lines 40 - 41**], and fingerprints and smudges consisting of deposits of transparent oils [**col. 4, lines 45 - 46**].

The examiner concurs with the “Written Opinion of the International Searching Authority” for the corresponding filed PCT/US2004/030501 that deposits of transparent oils on the film would most likely create low frequency non-uniformities and could be detected by the method as taught by EDGAR.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of EDGAR with those of BRYANT and COMPTON to use an additional wavelength of light (e.g., infrared) to create a correction

profile to detect low frequency non-uniformities in an image frame and to combine such correction profile with an open gate gain profile to calibrate a scanner.

Regarding claim 7, BRYANT and COMPTON *do not specifically teach* a method according to claim 6, wherein

said additional wavelength of light is infrared light.

As noted for claim 6, EDGAR teaches a method of scanning an image frame with an additional wavelength of light (i.e., infrared) in order to detect film defects; **col. 3, line 67 – col. 4, line 3.**

Regarding claim 8, BRYANT and COMPTON *do not specifically teach* a method according to claim 6, wherein

said additional wavelength of light is visible light with a dominant wavelength located away from film dye peaks.

The examiner concurs with the “Written Opinion of the International Searching Authority” for the corresponding filed PCT/US2004/030501 that it would have been obvious to one of ordinary skill in the art at the time the invention was made to select an additional visible wavelength of light so long as its dominant wavelength is located away from the film dye peaks. This is illustrated by EDGAR in **Fig. 5**. Note that a “dust/scratch” (line **92**) could be detected using a visible wavelength at 500 nm.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of EDGAR with those of BRYANT and COMPTON to use an additional visible wavelength of light (e.g., 500 nm) to create a correction profile to detect low frequency non-uniformities in an image frame and to combine such correction profile with an open gate gain profile to calibrate a scanner.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter L. Cheng whose telephone number is 571-270-3007. The examiner can normally be reached on MONDAY - FRIDAY, 8:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Y. Poon can be reached on 571-272-7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

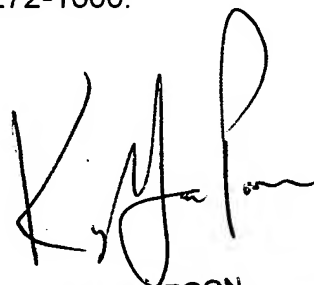
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plc
January 10, 2008



KING Y. POON
SUPERVISORY PATENT EXAMINER